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NEWS 8 DEC 23 New IPC8 SEARCH, DISPLAY, and SELECT fields in USPATFULL/
USPAT2
NEWS 9 JAN 13 IPC 8 searching in IFIPAT, IFIUDB, and IFICDB
NEWS 10 JAN 13 New IPC 8 SEARCH, DISPLAY, and SELECT enhancements added to
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NEWS 11 JAN 17 Pre-1988 INPI data added to MARPAT
NEWS 12 JAN 17 IPC 8 in the WPI family of databases including WPIFV
NEWS 13 JAN 30 Saved answer limit increased
NEWS 14 JAN 31 Monthly current-awareness alert (SDI) frequency
added to TULSA
NEWS 15 FEB 21 STN AnaVist, Version 1.1, lets you share your STN AnaVist
visualization results
NEWS 16 FEB 22 Status of current WO (PCT) information on STN
NEWS 17 FEB 22 The IPC thesaurus added to additional patent databases on STN
NEWS 18 FEB 22 Updates in EPFULL; IPC 8 enhancements added
NEWS 19 FEB 27 New STN AnaVist pricing effective March 1, 2006
NEWS 20 FEB 28 MEDLINE/LMEDLINE reload improves functionality
NEWS 21 FEB 28 TOXCENTER reloaded with enhancements
NEWS 22 FEB 28 REGISTRY/ZREGISTRY enhanced with more experimental spectral
property data
NEWS 23 MAR 01 INSPEC reloaded and enhanced
NEWS 24 MAR 03 Updates in PATDPA; addition of IPC 8 data without attributes
NEWS 25 MAR 08 X.25 communication option no longer available after June 2006

NEWS EXPRESS FEBRUARY 15 CURRENT VERSION FOR WINDOWS IS V8.01a,
CURRENT MACINTOSH VERSION IS V6.0c(ENG) AND V6.0Jc(JP),
AND CURRENT DISCOVER FILE IS DATED 19 DECEMBER 2005.
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<http://download.cas.org/express/v8.0-Discover/>

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FILE 'HOME' ENTERED AT 19:20:21 ON 12 MAR 2006

=> file reg

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	0.21	0.21

FILE 'REGISTRY' ENTERED AT 19:20:45 ON 12 MAR 2006

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DICTIONARY FILE UPDATES: 10 MAR 2006 HIGHEST RN 876462-31-6

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*
* The CA roles and document type information have been removed from *
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*

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<http://www.cas.org/ONLINE/UG/regprops.html>

=> e 2,2,3,3,3-pentafluoro-1,1-diphenylpropan-1-ol/cn

E1	1	2,2,3,3,3-PENTAFLUORO-1,1-DIPHENYLPROPAN-1-OL/CN
E2	1	2,2,3,3,3-PENTAFLUORO-1,1-DIPHENYLPROPAN-1-OL/CN
E3	1 -->	2,2,3,3,3-PENTAFLUORO-1,1-DIPHENYLPROPAN-1-OL/CN
E4	1	2,2,3,3,3-PENTAFLUORO-1-(4-METHOXYPHENYL)-1-PROPANONE/CN
E5	1	2,2,3,3,3-PENTAFLUORO-1-(TRIFLUOROMETHYL) PROPYLIDENE/CN
E6	1	2,2,3,3,3-PENTAFLUORO-1-PHENYL-1-PROPANOL/CN
E7	1	2,2,3,3,3-PENTAFLUORO-1-PROPANAMINE/CN
E8	1	2,2,3,3,3-PENTAFLUORO-1-PROPANOL/CN
E9	1	2,2,3,3,3-PENTAFLUORO-1-PROPOXIDE/CN
E10	1	2,2,3,3,3-PENTAFLUORO-N-(4-METHOXYPHENYL) PROPANIMIDOYL CHLORIDE/CN
E11	1	2,2,3,3,3-PENTAFLUOROPROPANAL/CN

E12 1 2,2,3,3,3-PENTAFLUOROPROPANOIC ACID/CN

=> s e3

L1 1 "2,2,3,3,3-PENTAFLUORO-1,1-DIPHENYLPROPAN-1-OL"/CN

=> d 11

L1 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2006 ACS on STN

RN 337-33-7 REGISTRY

ED Entered STN: 16 Nov 1984

CN Benzenemethanol, α -(pentafluoroethyl)- α -phenyl- (9CI) (CA INDEX NAME)

OTHER NAMES:

CN 2,2,3,3,3-Pentafluoro-1,1-diphenylpropan-1-ol

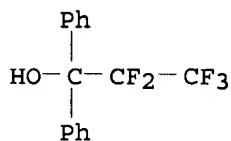
CN NSC 42691

FS 3D CONCORD

MF C15 H11 F5 O

LC STN Files: BEILSTEIN*, CA, CAOLD, CAPLUS, CASREACT, CHEMCATS, CSCHEM, USPATFULL

(*File contains numerically searchable property data)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

7 REFERENCES IN FILE CA (1907 TO DATE)

7 REFERENCES IN FILE CAPLUS (1907 TO DATE)

3 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

=> e potassium pentafluoroethyltrifluoroborate/cn

E1 1 POTASSIUM PENTAFLUOROETHANESULFONATE/CN

E2 1 POTASSIUM PENTAFLUOROETHYLSILICATE/CN

E3 0 --> POTASSIUM PENTAFLUOROETHYLTRIFLUOROBORATE/CN

E4 1 POTASSIUM PENTAFLUOROHAFNATE (1-)/CN

E5 1 POTASSIUM PENTAFLUOROHAFNATE (IV)/CN

E6 1 POTASSIUM PENTAFLUOROHAFNATE (IV) ((IV))/CN

E7 1 POTASSIUM PENTAFLUOROMANGANATE (III)/CN

E8 1 POTASSIUM PENTAFLUOROMANGANATE (IV)/CN

E9 1 POTASSIUM PENTAFLUOROMETHYLSILICATE/CN

E10 1 POTASSIUM PENTAFLUOROMETHYLSILICATE (K2(SIF5(CH3)))/CN

E11 1 POTASSIUM PENTAFLUOROOXONIOBATE (2-)/CN

E12 1 POTASSIUM PENTAFLUOROOXORHENATE (1-)/CN

=> e potassium pentafluoroethyl trifluoroborate/cn

E1 1 POTASSIUM PENTAFLUORODISTANNATE (II)/CN

E2 1 POTASSIUM PENTAFLUOROETHANESULFONATE/CN

E3 0 --> POTASSIUM PENTAFLUOROETHYL TRIFLUOROBORATE/CN

E4 1 POTASSIUM PENTAFLUOROETHYLSILICATE/CN

E5 1 POTASSIUM PENTAFLUOROHAFNATE (1-)/CN

E6 1 POTASSIUM PENTAFLUOROHAFNATE (IV)/CN

E7 1 POTASSIUM PENTAFLUOROHAFNATE (IV) ((IV))/CN

E8 1 POTASSIUM PENTAFLUOROMANGANATE (III)/CN

E9 1 POTASSIUM PENTAFLUOROMANGANATE (IV)/CN

E10 1 POTASSIUM PENTAFLUOROMETHYLSILICATE/CN

E11 1 POTASSIUM PENTAFLUOROMETHYLSILICATE (K2(SIF5(CH3)))/CN

E12 1 POTASSIUM PENTAFLUOROOXONIOBATE (2-)/CN

=> file caplus
COST IN U.S. DOLLARS
FULL ESTIMATED COST

SINCE FILE ENTRY	TOTAL SESSION
11.94	12.15

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FILE LAST UPDATED: 10 Mar 2006 (20060310/ED)

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=> s l1/prep
7 L1
3436306 PREP/RL
L2 4 L1/PREP
(L1 (L) PREP/RL)

=> d l2 ibib ab 1-4

L2 ANSWER 1 OF 4 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2005:1125512 CAPLUS
DOCUMENT NUMBER: 143:405908
TITLE: Preparation of pyrrolidinium, pyridinium, and imidazolium perfluoroalkyltrifluoroborates as ionic liquids.
INVENTOR(S): Ignatyev, Nikolai; Welz-Biermann, Urs; Bissky, German; Willner, Helge; Kucheryna, Andriy
PATENT ASSIGNEE(S): Merck Patent GmbH, Germany
SOURCE: Ger. Offen., 20 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 102004017026	A1	20051020	DE 2004-102004017026	20040402
WO 2005105815	A1	20051110	WO 2005-EP3	20050103
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				

RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM,
AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK,
EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT,
RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML,
MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: DE 2004-102004017026A 20040402

OTHER SOURCE(S): MARPAT 143:405908

AB Title compds. [I; X = NR1, N(R1)2, Q1Q2CHR3CHR4CHR5CHR6,
CR2:CR3CR4:CR5CR6, CR7:CR8NR10CR9; R1 = alkyl, CH2R11; R2-R6 = alkyl;
R7-R9 = H, alkyl, aryl; R10 = alkyl, CH2R11; R11 = (per)fluoroalkyl; R12 =
perfluoroalkyl, perfluorophenyl, etc.; with specific exceptions], were
prepared Thus, a mixture of KF and B(OMe)3 in dimethoxyethane was treated
dropwise with (C2F5)2P:NSiMe3 (preparation given) followed by heating at
60° for 1 h. Solvent was distilled off and the oily residue in
dimethoxyethane was treated with HF under cooling; after stirring for 3 h
excess HF was removed and the residue in H2O was treated with
1-methyl-3-butyylimidazolium chloride. The lower phase was separated to a
mixture containing 60 mol% 1-methyl-3-butyylimidazolium
pentafluoroethyltrifluoroborate.

L2 ANSWER 2 OF 4 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2003:837099 CAPLUS

DOCUMENT NUMBER: 139:323661

TITLE: Process for the production of
(perfluoroalkyl)phosphines by reaction of
fluoro(perfluoroalkyl)phosphoranes with hydride donors
and their use as perfluoroalkylating reagents

INVENTOR(S): Welz-Biermann, Urs; Ignatyev, Nikolai; Weiden,
Michael; Schmidt, Michael; Heider, Udo; Miller,
Alexej; Willner, Helge; Sartori, Peter

PATENT ASSIGNEE(S): Merck Patent G.m.b.H., Germany

SOURCE: PCT Int. Appl., 32 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003087113	A1	20031023	WO 2003-EP2739	20030317
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW			
RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
DE 10216998	A1	20031113	DE 2002-10216998	20020418
AU 2003218773	A1	20031027	AU 2003-218773	20030317
EP 1495037	A1	20050112	EP 2003-712029	20030317
R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK			
US 2005131256	A1	20050616	US 2003-511554	20030317
JP 2005522512	T2	20050728	JP 2003-584069	20030317
PRIORITY APPLN. INFO.:			DE 2002-10216998	A 20020418
			WO 2003-EP2739	W 20030317

OTHER SOURCE(S): CASREACT 139:323661; MARPAT 139:323661

AB (perfluoroalkyl)phosphines were prepared by solventless reaction at reflux
of at least 1 fluoro(perfluoroalkyl)phosphorane (CnF2n+1)mPF5-m
(1≤n≤8, preferably 1≤n≤4; m = 1, 2, 3) with

equimolar or excess amts. of at least 1 hydride ion donor (hydride donors = hydrosilanes, alkyl(hydro)silanes, metal hydrides, borohydrides, hydroborates); tris(perfluoroalkyl)phosphines thus prepared are useful for perfluoroalkylation of chemical substrates, preferably tricoordinated organoboron compds. and/or carbonyl group-containing organic compds., in presence

of a base. In an example, treating 0.54 mol (C₂F₅)₃PF₂ with 1.089 mol NaBH₄ at reflux for 3 h with vigorous stirring gave 93% (C₂F₅)₃P, which subsequently was treated with KOBu-t and benzophenone in THF to give 62% CF₃CF₂C(OH)Ph₂.

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 3 OF 4 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2003:837015 CAPLUS

DOCUMENT NUMBER: 139:323332

TITLE: Method for perfluoroalkylation of carbonyl-containing organic compounds and/or tricoordinated organoboron compounds with tris(perfluoroalkyl)phosphine oxides in the presence of a base

INVENTOR(S): Ignatyev, Nikolai; Welz-Biermann, Urs; Schmidt, Michael; Weiden, Michael; Heider, Udo; Willner, Helge; Sartori, Peter; Miller, Alexej

PATENT ASSIGNEE(S): Merck Patent G.m.b.H., Germany

SOURCE: PCT Int. Appl., 19 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003087020	A1	20031023	WO 2003-EP2741	20030317
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW			
RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
DE 10216996	A1	20031030	DE 2002-10216996	20020416
AU 2003219062	A1	20031027	AU 2003-219062	20030317
EP 1494982	A1	20050112	EP 2003-714833	20030317
R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK			
US 2005119513	A1	20050602	US 2003-511156	20030317
JP 2005522496	T2	20050728	JP 2003-583979	20030317
PRIORITY APPLN. INFO.:			DE 2002-10216996	A 20020416
			WO 2003-EP2741	W 20030317

AB The invention relates to a method for perfluoroalkylation of carbonyl-containing organic compds. and/or tricoordinated organoboron compds. with tris(perfluoroalkyl)phosphine oxides in the presence of a base. Thus, a mixture of KF and (MeO)₃B in 1,2-dimethoxyethane was treated with tris(pentafluoroethyl)phosphine oxide (preparation given) at -40° followed by stirring for 1 h at -30° to give 53.6% potassium pentafluoroethyltrisfluoroborate [(C₂F₅)BF₃K].

REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 4 OF 4 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1982:438595 CAPLUS
 DOCUMENT NUMBER: 97:38595
 TITLE: Addition-elimination reactions between phenyllithium and some perfluorovinyl ether compounds
 AUTHOR(S): Chen, Loomis S.; Tamborski, Christ
 CORPORATE SOURCE: Mater. Lab., Air Force Wright Aeronaut. Lab., Wright Patterson AFB, OH, 45433, USA
 SOURCE: Journal of Fluorine Chemistry (1982), 20(3), 341-8
 CODEN: JFLCAR; ISSN: 0022-1139
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 97:38595
 AB Reactions between PhLi and C3F7OCF:CF2 gave C3F7OCF:CFPh and C3F7OCPh:CFPh. Stoichiometry and reaction temperature dictate the degree of substitution; with each replacement of F by Ph the subsequent substitutions require more forcing conditions. The F was substituted easier than the C3F7O group during the addition-elimination reactions.

=> s potassium pentafluoroethyltrifluoroborate
 583052 POTASSIUM
 16 POTASSIUMS
 583054 POTASSIUM
 (POTASSIUM OR POTASSIUMS)
 4 PENTAFLUOROETHYLTRIFLUOROBORATE
 L3 1 POTASSIUM PENTAFLUOROETHYLTRIFLUOROBORATE
 (POTASSIUM(W) PENTAFLUOROETHYLTRIFLUOROBORATE)

=> d l3 ibib ab

L3 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 2004:1059309 CAPLUS
 DOCUMENT NUMBER: 142:37908
 TITLE: Synthesis of guanidinium-cation containing salts for use as ionic liquid reaction media
 INVENTOR(S): Welz-Biermann, Urs; Ignatyev, Nikolai; Willner, Helge; Bissky, German
 PATENT ASSIGNEE(S): Merck Patent G.m.b.H., Germany
 SOURCE: PCT Int. Appl., 42 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004106288	A2	20041209	WO 2004-EP3459	20040401
WO 2004106288	A3	20050317		
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW			
RW:	BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			

DE 10325051 A1 20041223 DE 2003-10325051 20030602
 PRIORITY APPLN. INFO.: DE 2003-10325051 A 20030602
 OTHER SOURCE(S): MARPAT 142:37908
 AB The invention relates to salts containing guanidinium cations, to a method for

their production and to their use as ionic liqs. Thus, 1,3-dimethyl-2-chloroimidazolidinium chloride was reacted with trimethylsilyldiethylamine to give 1,3-dimethyl-2-diethylaminioimidazolidinium chloride, which was then reacted with trifluorotris(pentafluoroethyl)phosphate to give the desired compound (I), m.p. 36-37° C. I had viscosities of 78, 34, and 18 cP at 40, 60, and 80 °C, resp., compared to 346, 269, and 124 cP for reference compound N,N-dimethyl-N',N',N'',N''-tetrahexylguanidinium bis(trifluoromethanesulfonyl)imide at 25, 40, or 60 °C, resp.

=> d 13 iall

L3 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 2004:1059309 CAPLUS
 DOCUMENT NUMBER: 142:37908
 ENTRY DATE: Entered STN: 10 Dec 2004
 TITLE: Synthesis of guanidinium-cation containing salts for use as ionic liquid reaction media
 INVENTOR(S): Welz-Biermann, Urs; Ignatyev, Nikolai; Willner, Helge; Bissky, German
 PATENT ASSIGNEE(S): Merck Patent G.m.b.H., Germany
 SOURCE: PCT Int. Appl., 42 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 INT. PATENT CLASSIF.:
 MAIN: C07C279-04
 SECONDARY: C07D233-48; C07F009-28; C07C309-06; C09F005-02
 CLASSIFICATION: 23-4 (Aliphatic Compounds)
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004106288	A2	20041209	WO 2004-EP3459	20040401
WO 2004106288	A3	20050317		
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW			
RW:	BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			

DE 10325051 A1 20041223 DE 2003-10325051 20030602
 PRIORITY APPLN. INFO.: DE 2003-10325051 A 20030602

PATENT CLASSIFICATION CODES:

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 2004106288	ICM	C07C279-04
	ICS	C07D233-48; C07F009-28; C07C309-06; C09F005-02
	IPCI	C07C0279-04 [ICM,7]; C07D0233-48 [ICS,7]; C07F0009-28 [ICS,7]; C07C0309-06 [ICS,7]; C09F0005-02 [ICS,7]
	IPCR	C07C0277-00 [I,C]; C07C0277-08 [I,A]; C07C0279-00 [I,C]; C07C0279-02 [I,A]; C07C0279-04 [I,A]; C07F0005-00 [I,C]; C07F0005-04 [I,A]; C07F0009-00 [I,C]; C07F0009-28 [I,A]
	ECLA	C07C277/08; C07C279/02; C07C279/04; C07F005/04; C07F009/28
DE 10325051	IPCI	C07C0279-02 [ICM,7]; C07F0009-50 [ICS,7]; H01M0006-16 [ICS,7]; B01J0031-02 [ICS,7]

IPCR C07C0277-00 [I,C]; C07C0277-08 [I,A]; C07C0279-00
 [I,C]; C07C0279-02 [I,A]; C07C0279-04 [I,A];
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 [I,C]; C07F0009-28 [I,A]
 ECLA C07C277/08; C07C279/02; C07C279/04; C07F005/04;
 C07F009/28

OTHER SOURCE(S): MARPAT 142:37908

ABSTRACT:

The invention relates to salts containing guanidinium cations, to a method for their production and to their use as ionic liqs. Thus, 1,3-dimethyl-2-chloroimidazolidinium chloride was reacted with trimethylsilyldiethylamine to give 1,3-dimethyl-2-diethylaminioimidazolidinium chloride, which was then reacted with trifluorotris(pentafluoroethyl)phosphate to give the desired compound (I), m.p. 36-37° C. I had viscosities of 78, 34, and 18 cP at 40, 60, and 80 °C, resp., compared to 346, 269, and 124 cP for reference compound N,N-dimethyl-N',N',N'',N''-tetrahexylguanidinium bis(trifluoromethanesulfonyl)imide at 25, 40, or 60 °C, resp.

SUPPL. TERM: guanidinium salt prepn ionic liq viscosity

INDEX TERM: Ionic liquids

Viscosity

(preparation of ionic liqs. containing guanidinium cations)

INDEX TERM: Alkali metal salts

Alkaline earth salts

ROLE: IMF (Industrial manufacture); RCT (Reactant); SPN
 (Synthetic preparation); PREP (Preparation); RACT (Reactant
 or reagent)

(preparation of ionic liqs. containing guanidinium cations)

INDEX TERM: Amines, preparation

ROLE: IMF (Industrial manufacture); RCT (Reactant); SPN
 (Synthetic preparation); PREP (Preparation); RACT (Reactant
 or reagent)

(salts; preparation of ionic liqs. containing guanidinium

cations)

INDEX TERM: 805247-52-3P

ROLE: IMF (Industrial manufacture); RCT (Reactant); SPN
 (Synthetic preparation); PREP (Preparation); RACT (Reactant
 or reagent)

(preparation of ionic liqs. containing guanidinium cations)

INDEX TERM: 153756-25-3P 805247-48-7P 805247-49-8P 805247-50-1P

805247-53-4P 805247-54-5P 805247-55-6P 805247-57-8P

805247-58-9P 805247-59-0P 805247-60-3P 805247-61-4P

805247-63-6P 805247-64-7P

ROLE: IMF (Industrial manufacture); SPN (Synthetic
 preparation); PREP (Preparation)

(preparation of ionic liqs. containing guanidinium cations)

INDEX TERM: 80-70-6, n,n,n',n'-Tetramethylguanidine 109-63-7,

Borontrifluoride etherate 333-27-7, Methyl triflate

425-75-2, Ethyl triflate 593-85-1, Guanidinium carbonate

996-50-9, Trimethylsilyldiethylamine 1493-13-6,

Trifluoromethanesulfonic acid 29166-71-0 30388-20-6,

Hexamethylguanidinium chloride 37091-73-9 50314-58-4

261356-49-4 476639-90-4, Potassium

pentafluoroethyltrifluoroborate 482635-70-1

ROLE: RCT (Reactant); RACT (Reactant or reagent)

(preparation of ionic liqs. containing guanidinium cations)

INDEX TERM: 805247-45-4P 805247-46-5P 805247-47-6P

ROLE: RCT (Reactant); SPN (Synthetic preparation); PREP
 (Preparation); RACT (Reactant or reagent)

(preparation of ionic liqs. containing guanidinium cations)

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COST IN U.S. DOLLARS

SINCE FILE

TOTAL

FULL ESTIMATED COST	ENTRY 25.38	SESSION 37.53
DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	-4.50	-4.50

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* the IDE default display format and the ED field has been added,   *
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* available and contains the CA role and document type information. *
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 experimental property data in the original document. For information
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FULL ESTIMATED COST	10.40	47.93
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DICTIONARY FILE UPDATES: 10 MAR 2006 HIGHEST RN 876462-31-6

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* the IDE default display format and the ED field has been added, *
* effective March 20, 2005. A new display format, IDERL, is now *
* available and contains the CA role and document type information. *
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Structure search iteration limits have been increased. See HELP SLIMITS for details.

REGISTRY includes numerically searchable data for experimental and predicted properties as well as tags indicating availability of experimental property data in the original document. For information on property searching in REGISTRY, refer to:

<http://www.cas.org/ONLINE/UG/regprops.html>

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L5 1 805247-52-3/RN

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SET COMMAND COMPLETED

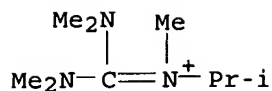
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THE ESTIMATED COST FOR THIS REQUEST IS 6.36 U.S. DOLLARS
DO YOU WANT TO CONTINUE WITH THIS REQUEST? (Y)/N:1
DO YOU WANT TO CONTINUE WITH THIS REQUEST? (Y)/N:y

L5 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2006 ACS on STN
RN 805247-52-3 REGISTRY
CN 2-Propanaminium, N-[bis(dimethylamino)methylene]-N-methyl-, salt with
trifluoromethanesulfonic acid (1:1) (9CI) (CA INDEX NAME)
MF C9 H22 N3 . C F3 O3 S
SR CA
LC STN Files: CA, CAPLUS
DT.CA Caplus document type: Patent
RL.P Roles from patents: PREP (Preparation); RACT (Reactant or reagent)

CM 1

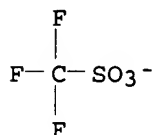
CRN 805247-51-2
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CM 2

CRN 37181-39-8

CMF C F3 O3 S



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1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

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SET COMMAND COMPLETED

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FULL ESTIMATED COST

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)

SINCE FILE	TOTAL
ENTRY	SESSION
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CA SUBSCRIBER PRICE

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*
* The CA roles and document type information have been removed from *

* the IDE default display format and the ED field has been added, *
 * effective March 20, 2005. A new display format, IDERL, is now *
 * available and contains the CA role and document type information. *
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Structure search iteration limits have been increased. See HELP SLIMITS for details.

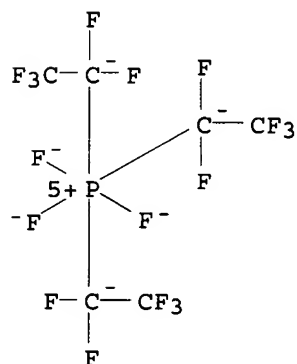
REGISTRY includes numerically searchable data for experimental and predicted properties as well as tags indicating availability of experimental property data in the original document. For information on property searching in REGISTRY, refer to:

<http://www.cas.org/ONLINE/UG/regprops.html>

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 (482635-70-1/RN)

=> d l6

L6 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2006 ACS on STN
 RN 482635-70-1 REGISTRY
 ED Entered STN: 29 Jan 2003
 CN Phosphate(1-), trifluorotris(pentafluoroethyl)-, hydrogen (9CI) (CA INDEX NAME)
 MF C6 F18 P . H
 CI CCS, COM
 SR CA
 LC STN Files: CA, CAPLUS, USPATFULL
 CRN (429679-87-8)



● H⁺

PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

3 REFERENCES IN FILE CA (1907 TO DATE)
 3 REFERENCES IN FILE CAPLUS (1907 TO DATE)

=> FIL MARPAT

COST IN U.S. DOLLARS

SINCE FILE ENTRY TOTAL SESSION

FULL ESTIMATED COST	4.98	55.69
DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE	TOTAL
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CA SUBSCRIBER PRICE	0.00	-4.50

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FILE CONTENT: 1969-PRESENT VOL 144 ISS 10 (20060303/ED)

SOME MARPAT RECORDS ARE DERIVED FROM INPI DATA FOR 1969-1987

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 (COVERAGE TO THESE DATES IS NOT COMPLETE):

US	2006014764	19	JAN	2006
DE	202005014897	22	DEC	2005
EP	1609846	28	DEC	2005
JP	2005353222	22	DEC	2005
WO	2006003494	12	JAN	2006
GB	2415429	28	DEC	2005
FR	2871802	23	DEC	2005
RU	2266908	27	DEC	2005
CA	2495134	23	DEC	2005

Expanded G-group definition display now available.

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 DO YOU WANT TO CONTINUE WITH THIS REQUEST? (Y)/N:y

ANSWER 1 MARPAT COPYRIGHT 2006 ACS on STN

AN 142:37908 MARPAT
 TI Synthesis of guanidinium-cation containing salts for use as ionic liquid
 reaction media
 IN Welz-Biermann, Urs; Ignatyev, Nikolai; Willner, Helge; Bissky, German
 PA Merck Patent G.m.b.H., Germany
 SO PCT Int. Appl., 42 pp.
 CODEN: PIXXD2
 DT Patent
 LA German
 IC ICM C07C279-04
 ICS C07D233-48; C07F009-28; C07C309-06; C09F005-02
 CC 23-4 (Aliphatic Compounds)
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI	WO 2004106288	A2	20041209	WO 2004-EP3459	20040401
	WO 2004106288	A3	20050317		

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 GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,
 LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI,

NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY,
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 TD, TG

DE 10325051 A1 20041223 DE 2003-10325051 20030602

PRAI DE 2003-10325051 20030602

AB The invention relates to salts containing guanidinium cations, to a method for their production and to their use as ionic liqs. Thus, 1,3-dimethyl-2-chloroimidazolidinium chloride was reacted with trimethylsilyldiethylamine to give 1,3-dimethyl-2-diethylaminioimidazolidinium chloride, which was then reacted with trifluorotris(pentafluoroethyl)phosphate to give the desired compound (I), m.p. 36-37° C. I had viscosities of 78, 34, and 18 cP at 40, 60, and 80 °C, resp., compared to 346, 269, and 124 cP for reference compound N,N-dimethyl-N',N',N'',N''-tetrahexylguanidinium bis(trifluoromethanesulfonyl)imide at 25, 40, or 60 °C, resp.

ST guanidinium salt prepn ionic liq viscosity

IT Ionic liquids

Viscosity

(preparation of ionic liqs. containing guanidinium cations)

IT Alkali metal salts

Alkaline earth salts

RL: IMF (Industrial manufacture); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation of ionic liqs. containing guanidinium cations)

IT Amines, preparation

RL: IMF (Industrial manufacture); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(salts; preparation of ionic liqs. containing guanidinium cations)

IT 805247-52-3P

RL: IMF (Industrial manufacture); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation of ionic liqs. containing guanidinium cations)

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RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)

(preparation of ionic liqs. containing guanidinium cations)

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RL: RCT (Reactant); RACT (Reactant or reagent)

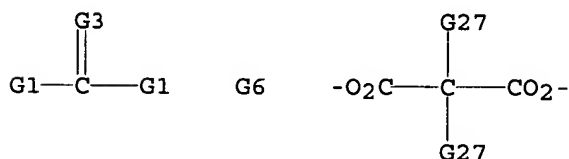
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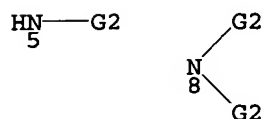
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(preparation of ionic liqs. containing guanidinium cations)

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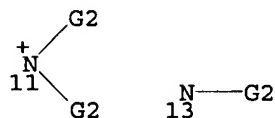


G1 = NH₂ / 5 / 8 / heterocycle <containing 1 or more N,
attached through 1 or more N>



G2 = alkyl <containing 1-20 C>
(opt. substd. by 1 or more G4) /
carbocycle <containing 3-7 C> (opt. substd. by 1 or more G4)
/ Ph (opt. substd. by G5) / R / (Specifically claimed: Me /
Et / Pr-n / Pr-i / Bu-t / Bu-s / Ph / cyclohexyl)

G3 = NH / 13 / 11 / heterocycle <containing 1 or more N,
attached through 1 or more N, (+1) charge>

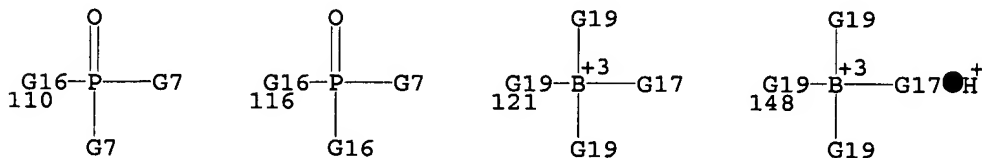
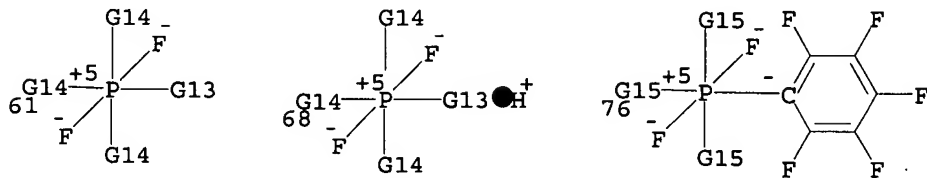
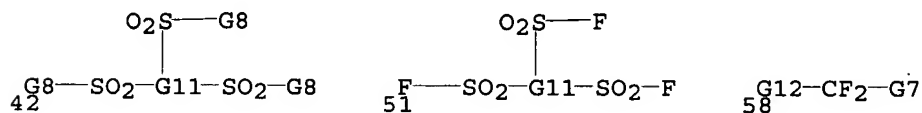
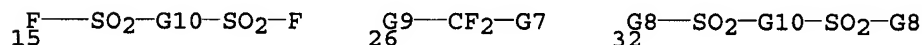


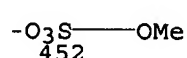
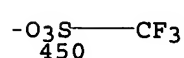
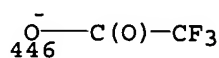
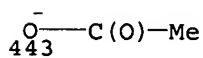
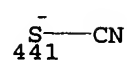
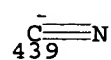
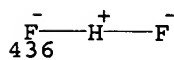
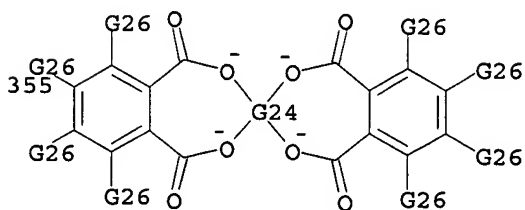
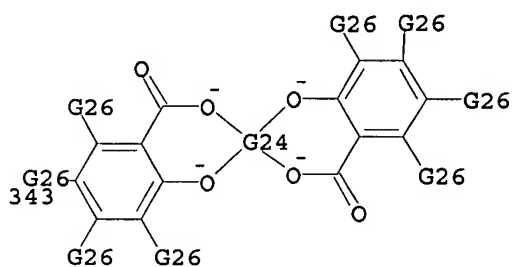
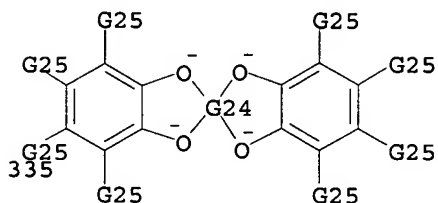
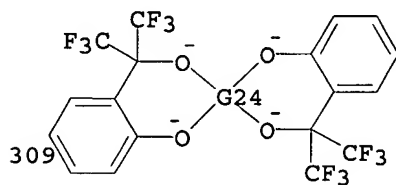
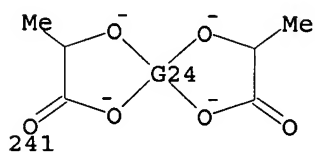
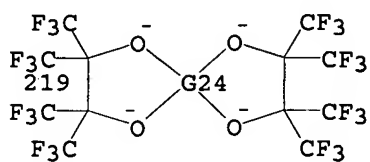
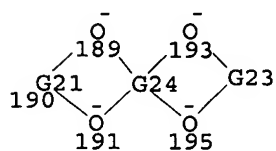
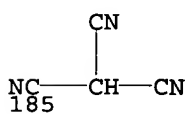
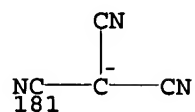
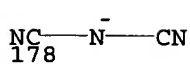
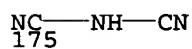
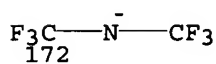
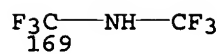
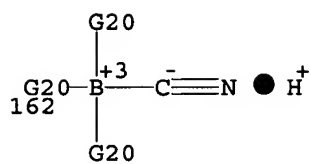
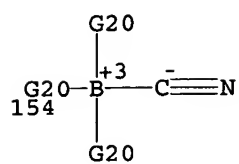
G4 = halo / F / Cl / CN / NO₂

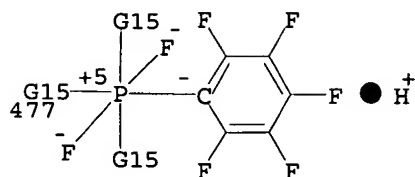
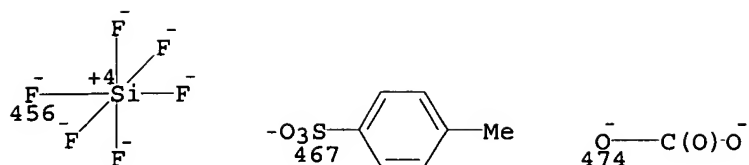
G5 = alkyl <containing 1-6 C>

(opt. substd. by 1 or more G4) / halo / F / Cl / CN / NO₂

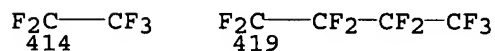
G6 = 15 / 26 / 32 / 42 / 51 / 58 / 61 / 68 / 76 / 477 /
110 / 116 / 121 / 148 / 154 / 162 / 169 / 172 / 175 / 178 /
181 / 185 / 190 / 219 / 241 / 343 / 355 / 309 / 335 /
fluoride / chloride / bromide / iodide / 436 / 439 / 441 /
443 / 446 / 450 / 452 / 456 / tetrafluoroborate / sulfate /
nitrate / 467 / 467 / 474



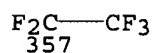




G7 = perfluoroalkyl <containing 1-20 C> /
perfluoroalkenyl <containing 2-20 C> /
alkynyl <containing 2-20 C, no H> (substd. by 1 or more F) /
carbocycle <containing 3-7 C, no H>
(substd. by 1 or more F) / Ph (opt. substd. by
perfluoroalkyl) / R / (Specifically claimed: CF3 / 414 / 419)



G8 = perfluoroalkyl <containing 2-20 C> /
perfluoroalkenyl <containing 2-20 C> /
alkynyl <containing 2-20 C, no H> (substd. by 1 or more F) /
carbocycle <containing 3-7 C, no H>
(substd. by 1 or more F) / Ph (opt. substd. by
perfluoroalkyl) / R / (Specifically claimed: 357)



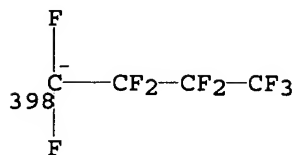
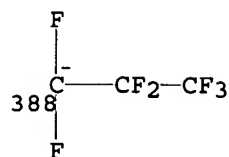
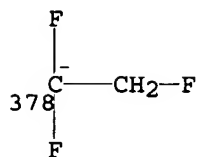
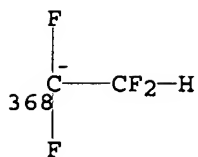
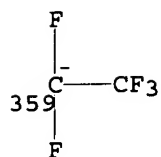
G9 = SO₃H / sulfonate
G10 = NH / 49



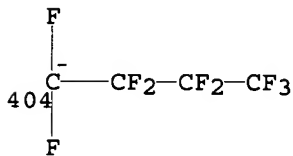
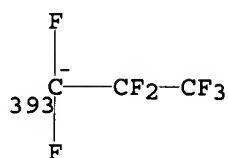
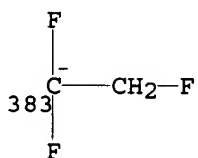
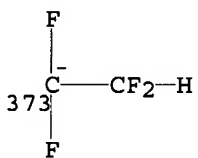
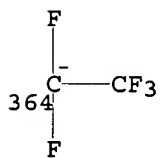
G11 = 50 / CH



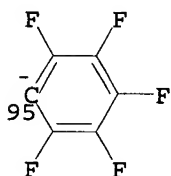
G12 = carboxylate / CO₂H
G13 = alkyl <containing 1-20 C, (-1) charge>
(opt. substd. by 1 or more F) / (Specifically claimed: 359 /
368 / 378 / 388 / 398)



G14 = alkyl <containing 1-20 C, (-1) charge>
(opt. substd. by 1 or more F) / fluoride /
(Specifically claimed: 364 / 373 / 383 / 393 / 404)



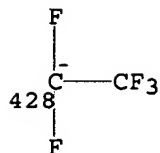
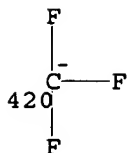
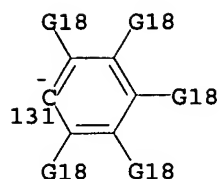
G15 = 95 / fluoride



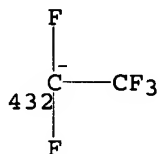
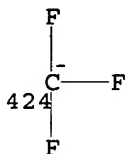
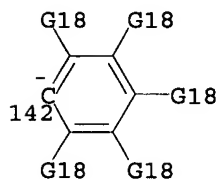
G16 = 115 / OH



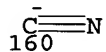
G17 = perfluoroalkyl <containing 1-20 C, (-1) charge> /
perfluoroalkenyl <containing 2-20 C, (-1) charge> /
alkynyl <containing 2-20 C, no H, (-1) charge>
(substd. by 1 or more F) / carbocycle <containing 3-7 C,
no H, (-1) charge> (substd. by 1 or more F) / 131 /
R <(-1) charge> / (Specifically claimed: 420 / 428)



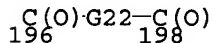
G18 = H / perfluoroalkyl
 G19 = perfluoroalkyl <containing 1-20 C, (-1) charge> /
 perfluoroalkenyl <containing 2-20 C, (-1) charge> /
 alkynyl <containing 2-20 C, no H, (-1) charge>
 (substd. by 1 or more F) / carbocycle <containing 3-7 C,
 no H, (-1) charge> (substd. by 1 or more F) / 142 /
 R <(-1) charge> / fluoride / (Specifically claimed: 424 /
 432)



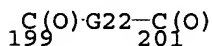
G20 = 160 / fluoride



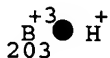
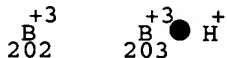
G21 = 196-189 198-191



G22 = (0-3) CH2 (opt. substd. by F)
 G23 = 199-193 201-195



G24 = 202 / 203



G25 = H / F / CF3
 G26 = H / CF3
 G27 = H / R

Patent location:

Note:

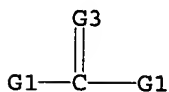
Note:

claim 1

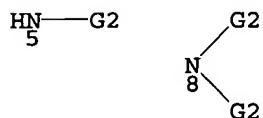
additional ring formation also claimed

also incorporates claim 6

MSTR 2

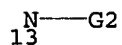


G1 = NH₂ / 5 / 8 / heterocycle <containing 1 or more N,
attached through 1 or more N>



G2 = alkyl <containing 1-20 C>
(opt. substd. by 1 or more G4) /
carbocycle <containing 3-7 C> (opt. substd. by 1 or more G4)
/ Ph (opt. substd. by G5) / R / (Specifically claimed: Me /
Et / Pr-n / Pr-i / Bu-t / Bu-s / Ph / cyclohexyl)

G3 = NH / 13 / heterocycle <containing 1 or more N,
attached through 1 or more N, (+1) charge>



G4 = halo / F / Cl / CN / NO₂

G5 = alkyl <containing 1-6 C>
(opt. substd. by 1 or more G4) / halo / F / Cl / CN / NO₂

Patent location:

claim 6

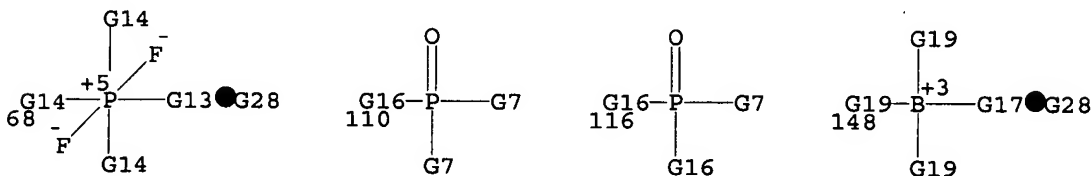
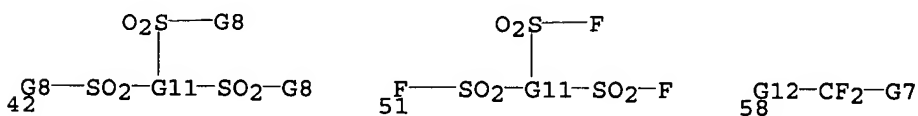
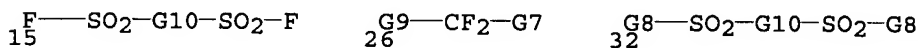
Note:

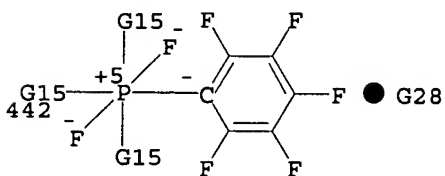
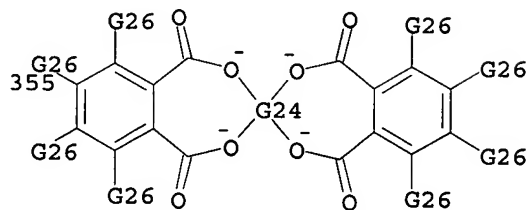
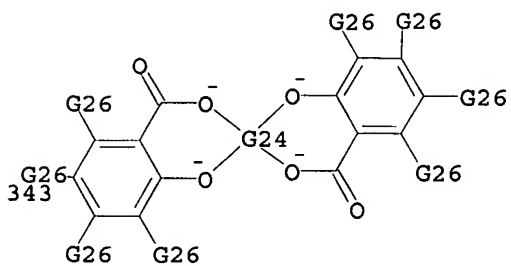
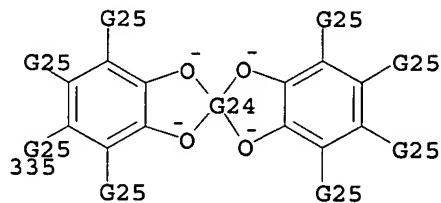
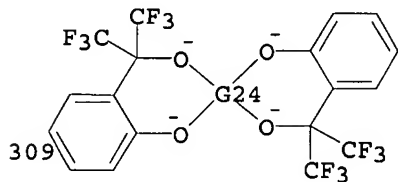
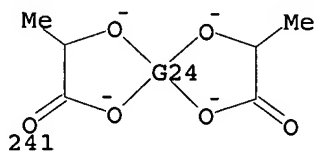
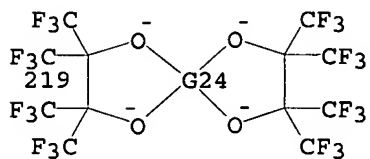
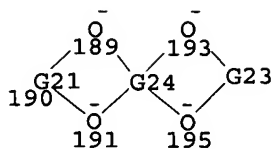
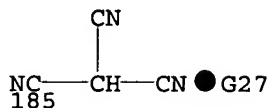
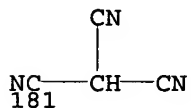
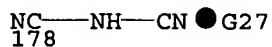
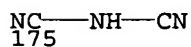
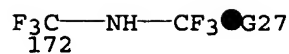
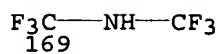
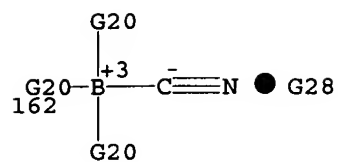
additional ring formation also claimed

MSTR 3

G6

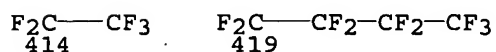
G6 = 15 / 26 / 32 / 42 / 51 / 58 / 68 / 442 / 110 / 116 /
148 / 162 / 169 / 172 / 175 / 178 / 181 / 185 / 190 / 219 /
241 / 343 / 355 / 309 / 335



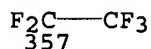


G7 = perfluoroalkyl <containing 1-20 C> /

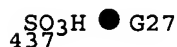
perfluoroalkenyl <containing 2-20 C> /
 alkynyl <containing 2-20 C, no H> (substd. by 1 or more F) /
 carbocycle <containing 3-7 C, no H>
 (substd. by 1 or more F) / Ph (opt. substd. by
 perfluoroalkyl) / R / (Specifically claimed: CF₃ / 414 / 419)



G8 = perfluoroalkyl <containing 2-20 C> /
 perfluoroalkenyl <containing 2-20 C> /
 alkynyl <containing 2-20 C, no H> (substd. by 1 or more F) /
 carbocycle <containing 3-7 C, no H>
 (substd. by 1 or more F) / Ph (opt. substd. by
 perfluoroalkyl) / R / (Specifically claimed: 357)



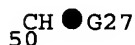
G9 = SO₃H / 437



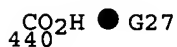
G10 = NH / 49



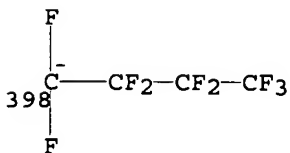
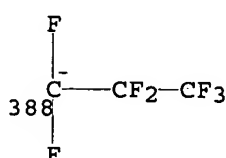
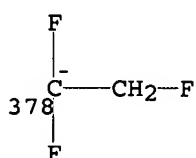
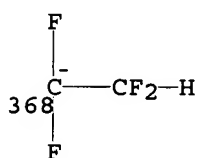
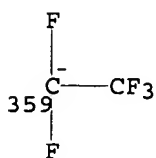
G11 = 50 / CH



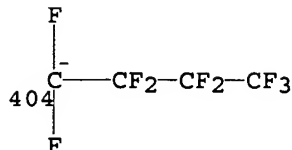
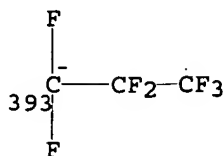
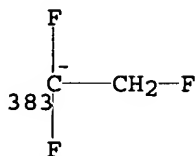
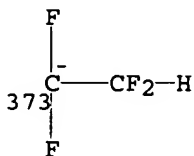
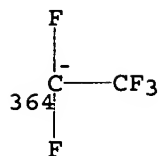
G12 = 440 / CO₂H



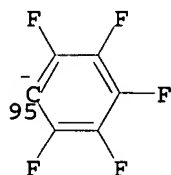
G13 = alkyl <containing 1-20 C, (-1) charge>
 (opt. substd. by 1 or more F) / (Specifically claimed: 359 /
 368 / 378 / 388 / 398)



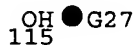
G14 = alkyl <containing 1-20 C, (-1) charge>
 (opt. substd. by 1 or more F) / fluoride /
 (Specifically claimed: 364 / 373 / 383 / 393 / 404)



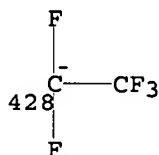
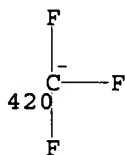
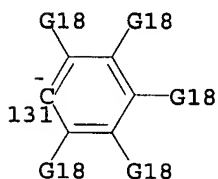
G15 = 95 / fluoride



G16 = 115 / OH

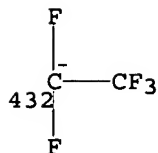
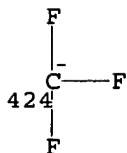
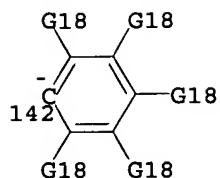


G17 = perfluoroalkyl <containing 1-20 C, (-1) charge> /
 perfluoroalkenyl <containing 2-20 C, (-1) charge> /
 alkynyl <containing 2-20 C, no H, (-1) charge>
 (substd. by 1 or more F) / carbocycle <containing 3-7 C,
 no H, (-1) charge> (substd. by 1 or more F) / 131 /
 R <(-1) charge> / (Specifically claimed: 420 / 428)

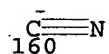


G18 = H / perfluoroalkyl

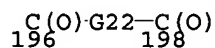
G19 = perfluoroalkyl <containing 1-20 C, (-1) charge> /
 perfluoroalkenyl <containing 2-20 C, (-1) charge> /
 alkynyl <containing 2-20 C, no H, (-1) charge>
 (substd. by 1 or more F) / carbocycle <containing 3-7 C,
 no H, (-1) charge> (substd. by 1 or more F) / 142 /
 R <(-1) charge> / fluoride / (Specifically claimed: 424 /
 432)



G20 = 160 / fluoride

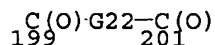


G21 = 196-189 198-191

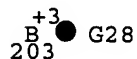


G22 = (0-3) CH₂ (opt. substd. by F)

G23 = 199-193 201-195



G24 = 203



G25 = H / F / CF₃

G26 = H / CF₃

G27 = alkali metal atom / alkaline earth metal atom

G28 = 461 / alkali metal ion / alkaline earth metal ion



Patent location: claim 6

MSTR 4

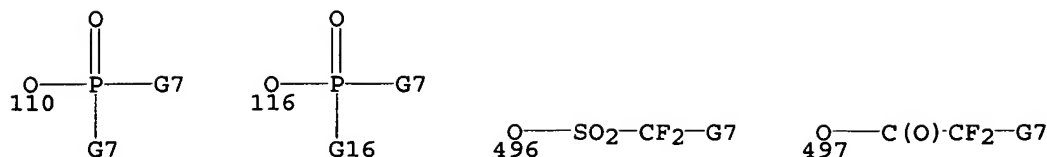
G2—G6

G2 = alkyl <containing 1-20 C>
 (opt. substd. by 1 or more G4) /
 carbocycle <containing 3-7 C> (opt. substd. by 1 or more G4)
 / Ph (opt. substd. by G5) / R / (Specifically claimed: Me /
 Et / Pr-n / Pr-i / Bu-t / Bu-s / Ph / cyclohexyl)

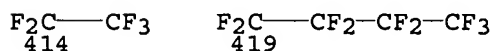
G4 = halo / F / Cl / CN / NO₂

G5 = alkyl <containing 1-6 C>
 (opt. substd. by 1 or more G4) / halo / F / Cl / CN / NO₂

G6 = 496 / 497 / 110 / 116



G7 = perfluoroalkyl <containing 1-20 C> /
 perfluoroalkenyl <containing 2-20 C> /
 alkynyl <containing 2-20 C, no H> (substd. by 1 or more F) /
 carbocycle <containing 3-7 C, no H>
 (substd. by 1 or more F) / Ph (opt. substd. by
 perfluoroalkyl) / R / (Specifically claimed: CF3 / 414 / 419)



G16 = 115 / OH



Patent location: claim 7
 Note: substitution is restricted

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	ENTRY	SESSION
CA SUBSCRIBER PRICE	-0.71	-5.21

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=> S 476639-90-4/RN

L7 1 476639-90-4/RN

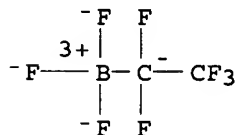
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L7 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2006 ACS on STN
 RN 476639-90-4 REGISTRY
 CN Borate(1-), trifluoro(pentafluoroethyl)-, potassium, (T-4)- (9CI) (CA INDEX NAME)
 OTHER NAMES:
 CN Potassium (pentafluoroethyl)trifluoroborate
 CN Potassium trifluoro(pentafluoroethyl)borate
 MF C2 B F8 . K
 CI CCS
 SR CA
 LC STN Files: CA, CAPLUS, CASREACT, USPATFULL
 DT.CA Caplus document type: Journal; Patent
 RL.P Roles from patents: PREP (Preparation); RACT (Reactant or reagent)
 RL.NP Roles from non-patents: PREP (Preparation); PRP (Properties); RACT (Reactant or reagent)
 CRN (390750-62-6)



● K⁺

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10 REFERENCES IN FILE CAPLUS (1907 TO DATE)

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=> s 476639-90-4
L8 1 476639-90-4
(476639-90-4/RN)

	SINCE FILE	TOTAL
COST IN U.S. DOLLARS	ENTRY	SESSION
FULL ESTIMATED COST	2.78	64.55

	SINCE FILE	TOTAL
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=> s 18
L9 10 L8

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=> s l8/prep
10 L8
3436306 PREP/RL
L10 7 L8/PREP
(L8 (L) PREP/RL)

=> d l10 ibib ab 1-7

L10 ANSWER 1 OF 7 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2005:166762 CAPLUS
DOCUMENT NUMBER: 142:414350
TITLE: Li[C2F5BF3] as an electrolyte salt for 4 V class
lithium-ion cells
AUTHOR(S): Zhou, Zhi-Bin; Takeda, Masayuki; Fujii, Takashi; Ue,
Makoto
CORPORATE SOURCE: Battery Materials Laboratory, Mitsubishi Chemical
Group Science and Technology Research Center,
Incorporated, Ibaraki, 300-0332, Japan
SOURCE: Journal of the Electrochemical Society (2005), 152(2),
A351-A356
CODEN: JESOAN; ISSN: 0013-4651
PUBLISHER: Electrochemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Lithium pentafluoroethyltrifluoroborate, Li[C2F5BF3] (LiFAB), was prepared
by a facile metathesis reaction between high-purity K[C2F5BF3] and LiBF4
in di-Me carbonate with almost quant. yield. It was characterized by ¹H-,
¹⁹F-, ¹¹B-, ⁷Li-NMR, and elemental anal. In nonaq. solvents, LiFAB showed
higher electrolytic conductivities than LiBF4 due to the weaker
coordinating ability of FAB-. Compared with LiPF6, it showed a lower
electrolytic conductivity in room-temperature region, and a higher
conductivity in low-temperature
region (T < -10 °C). The performances of LiFAB were evaluated in
comparison with LiPF6 and LiBF4 by using Li/graphite and Li/nickel-based
oxide half-cells and Li-ion cells. LiFAB could afford comparable
performances to LiPF6 and much better performances than LiBF4.
REFERENCE COUNT: 47 THERE ARE 47 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L10 ANSWER 2 OF 7 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2003:990110 CAPLUS
DOCUMENT NUMBER: 140:181496
TITLE: Rearrangement reactions of the transient Lewis acids
(CF3)3B and (CF3)3BCF2: an experimental and
theoretical study
AUTHOR(S): Finze, Maik; Bernhardt, Eduard; Zaehres, Manfred;
Willner, Helge
CORPORATE SOURCE: Fakultät 4, Anorganische Chemie, Universitaet
Duisburg-Essen, Duisburg, D-47048, Germany
SOURCE: Inorganic Chemistry (2004), 43(2), 490-505
CODEN: INOCAJ; ISSN: 0020-1669
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 140:181496
AB Short-lived (CF3)3B and (CF3)3BCF2 are generated as intermediates by
thermal dissociation of (CF3)3BCO and F- abstraction from the weak
coordinating anion [B(CF3)4]-, resp. Both Lewis acids cannot be detected
because of their instability with respect to rearrangement reactions at
the B-C-F moiety. A cascade of 1,2-F shifts to B followed by
perfluoroalkyl group migrations and also difluorocarbene transfer
reactions occur. In the gas phase, (CF3)3B rearranges to a mixture of
linear perfluoroalkyldifluoroboranes CnF2n+1BF2 (n = 2-7), while the resp.
reactions of (CF3)3BCF2 result in a mixture of linear (n = 2-4) and branched

monoperfluoroalkyldifluoroboranes, e.g., (C2F5)(CF3)FCBF2. For comparison, the reactions of [CF3BF3]- and [C2F5BF3]- with AsF5 were studied, and the products in the case of [CF3BF3]- are BF3 and C2F5BF2 whereas in the case of [C2F5BF3]-, C2F5BF2 is the sole product. In contrast to reports in the literature, CF3BF2 is too unstable at room temperature to be detected. The decomposition of (CF3)3BCO in anhydrous HF leads to a

mixture of the new conjugate Bronsted-Lewis acids [H2F][(CF3)3BF] and [H2F][C2F5BF3]. All reactions are modeled by d. functional calcns. The energy barriers of the transition states are low in agreement with the exptl. results that (CF3)3B and (CF3)3BCF2 are short-lived intermediates. Since CF2 complexes are key intermediates in the rearrangement reactions of (CF3)3B and (CF3)3BCF2, CF2 affinities of some perfluoroalkylfluoroboranes are presented. CF2 affinities are compared to CO and F- affinities of selected boranes showing a trend in Lewis acidity, and its influence on the stability of the complexes is discussed. F- ion affinities are calculated for a variety of different fluoroboranes, including perfluorocarboranes, and compared to those of the title compds.

REFERENCE COUNT: 74 THERE ARE 74 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L10 ANSWER 3 OF 7 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2003:837099 CAPLUS

DOCUMENT NUMBER: 139:323661

TITLE: Process for the production of (perfluoroalkyl)phosphines by reaction of fluoro(perfluoroalkyl)phosphoranes with hydride donors and their use as perfluoroalkylating reagents

INVENTOR(S): Welz-Biermann, Urs; Ignatyev, Nikolai; Weiden, Michael; Schmidt, Michael; Heider, Udo; Miller, Alexej; Willner, Helge; Sartori, Peter

PATENT ASSIGNEE(S): Merck Patent G.m.b.H., Germany

SOURCE: PCT Int. Appl., 32 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003087113	A1	20031023	WO 2003-EP2739	20030317
W:			AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW	
RW:			GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG	
DE 10216998	A1	20031113	DE 2002-10216998	20020418
AU 2003218773	A1	20031027	AU 2003-218773	20030317
EP 1495037	A1	20050112	EP 2003-712029	20030317
R:			AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK	
US 2005131256	A1	20050616	US 2003-511554	20030317
JP 2005522512	T2	20050728	JP 2003-584069	20030317
PRIORITY APPLN. INFO.:			DE 2002-10216998	A 20020418
			WO 2003-EP2739	W 20030317

OTHER SOURCE(S): CASREACT 139:323661; MARPAT 139:323661

AB (perfluoroalkyl)phosphines were prepared by solventless reaction at reflux of at least 1 fluoro(perfluoroalkyl)phosphorane (CnF2n+1)mPF5-m

($1 \leq n \leq 8$, preferably $1 \leq n \leq 4$; $m = 1, 2, 3$) with equimolar or excess amts. of at least 1 hydride ion donor (hydride donors = hydrosilanes, alkyl(hydro)silanes, metal hydrides, borohydrides, hydroborates); tris(perfluoroalkyl)phosphines thus prepared are useful for perfluoroalkylation of chemical substrates, preferably tricoordinated organoboron compds. and/or carbonyl group-containing organic compds., in presence of a base. In an example, treating 0.54 mol $(C_2F_5)_3PF_2$ with 1.089 mol $NaBH_4$ at reflux for 3 h with vigorous stirring gave 93% $(C_2F_5)_3P$, which subsequently was treated with $KOBu-t$ and benzophenone in THF to give 62% $CF_3CF_2C(OH)Ph_2$.

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L10 ANSWER 4 OF 7 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2003:837015 CAPLUS

DOCUMENT NUMBER: 139:323332

TITLE: Method for perfluoroalkylation of carbonyl-containing organic compounds and/or tricoordinated organoboron compounds with tris(perfluoroalkyl)phosphine oxides in the presence of a base

INVENTOR(S): Ignatyev, Nikolai; Welz-Biermann, Urs; Schmidt, Michael; Weiden, Michael; Heider, Udo; Willner, Helge; Sartori, Peter; Miller, Alexej

PATENT ASSIGNEE(S): Merck Patent G.m.b.H., Germany

SOURCE: PCT Int. Appl., 19 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003087020	A1	20031023	WO 2003-EP2741	20030317
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW			
RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
DE 10216996	A1	20031030	DE 2002-10216996	20020416
AU 2003219062	A1	20031027	AU 2003-219062	20030317
EP 1494982	A1	20050112	EP 2003-714833	20030317
R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK			
US 2005119513	A1	20050602	US 2003-511156	20030317
JP 2005522496	T2	20050728	JP 2003-583979	20030317
PRIORITY APPLN. INFO.:			DE 2002-10216996	A 20020416
			WO 2003-EP2741	W 20030317

AB The invention relates to a method for perfluoroalkylation of carbonyl-containing organic compds. and/or tricoordinated organoboron compds. with tris(perfluoroalkyl)phosphine oxides in the presence of a base. Thus, a mixture of KF and $(MeO)_3B$ in 1,2-dimethoxyethane was treated with tris(pentafluoroethyl)phosphine oxide (preparation given) at -40° followed by stirring for 1 h at -30° to give 53.6% potassium pentafluoroethyltrisfluoroborate $[(C_2F_5)_3BF_3K]$.

REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L10 ANSWER 5 OF 7 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2003:807858 CAPLUS
DOCUMENT NUMBER: 139:395987
TITLE: Perfluoroalkyl borates and boronic esters: new promising partners for Suzuki and Petasis reactions
AUTHOR(S): Kolomeitsev, Alexander A.; Kadyrov, Alexander A.; Szczepkowska-Sztolcman, Joanna; Milewska, Magdalena; Koroniak, Henryk; Bissky, German; Barten, Jan A.; Roeschenthaler, Gerd-Volker
CORPORATE SOURCE: Institute of Organic Chemistry, Ukrainian National Academy of Sciences, Kiev, 02094, Ukraine
SOURCE: Tetrahedron Letters (2003), 44(45), 8273-8277
CODEN: TELEAY; ISSN: 0040-4039
PUBLISHER: Elsevier Science B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 139:395987
AB Lithium and potassium trifluoromethyl-, pentafluoroethyl- and [(diethylphosphinyl)difluoromethyl]trialkoxymethylborates were prepared by reaction of either perfluoroalkyllithium or (perfluoroalkyl)trimethylsilane/F- with tri-Me or tri-Et borates. Treatment of perfluoroalkyltrialkoxymethylborates with methanesulfonyl chloride, Me triflate or Me tosylate furnished the hitherto unknown trifluoromethyl-, pentafluoroethyl- and [(diethylphosphinyl)difluoromethyl]boronic esters.
REFERENCE COUNT: 28 THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L10 ANSWER 6 OF 7 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2003:728921 CAPLUS
DOCUMENT NUMBER: 140:199362
TITLE: Novel electrolyte salts based on perfluoroalkyltrifluoroborate anions. 1. Synthesis and characterization
AUTHOR(S): Zhou, Zhi-Bin; Takeda, Masayuki; Ue, Makoto
CORPORATE SOURCE: Electrochemistry Laboratory, Science and Technology Research Center, Mitsubishi Chemical Corporation, Inashiki, Ibaraki, 300-0332, Japan
SOURCE: Journal of Fluorine Chemistry (2003), 123(1), 127-131
CODEN: JFLCAR; ISSN: 0022-1139
PUBLISHER: Elsevier Science B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 140:199362
AB Lithium and tetraethylammonium perfluoroalkyltrifluoroborate salts, Li[RfBF₃]·H₂O and Et₄N[RfBF₃] (Rf = C₂F₅, n-C₃F₇ and n-C₄F₉), were prepared from the reactions of perfluoroalkylmagnesium reagents (RfMgBr) and B(OCH₃)₃, followed by fluorination by aqueous KHF₂ and aqueous HF solns. and the cation exchange reaction of the resultant K[RfBF₃]. All the salts prepared were characterized by ¹⁹F NMR, ¹H NMR, ¹¹B NMR, ⁷Li NMR, IR, MS and elemental anal.
REFERENCE COUNT: 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L10 ANSWER 7 OF 7 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2002:608824 CAPLUS
DOCUMENT NUMBER: 138:4627
TITLE: (Fluoroorgano)fluoroboranes and -borates. 7. The reaction of RFBF₂ and K[RFBF₃] (RF = perfluorophenyl-, perfluoroalk-1-enyl- and perfluoroalkyl) with xenon difluoride in anhydrous HF
AUTHOR(S): Frohn, H.-J.; Bardin, V. V.
CORPORATE SOURCE: Fachgebiet Anorganische Chemie, Universitaet Duisburg, Duisburg, D-47048, Germany

SOURCE: Zeitschrift fuer Anorganische und Allgemeine Chemie
(2002), 628(8), 1853-1856
CODEN: ZAACAB; ISSN: 0044-2313
PUBLISHER: Wiley-VCH Verlag GmbH
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 138:4627

AB The dissoln. of (perfluoroorgano)difluoroboranes RFBF₂ in anhydrous HF (aHF) resulted in equilibrium mixts. of the starting borane and different kinds of acid-base products: [H₂F][RFBF₂(F·HF)] (RF = C₆F₅, cis-C₂F₅CF:CF, trans-C₄F₉CF:CF) or [H₂F][RFBF₃] (RF = C₆F₁₃). In aHF the aryl compds. C₆F₅BF₂ and K[C₆F₅BF₃] showed two parallel reactivities with XeF₂: xenoborylation (formation of the [C₆F₅Xe]⁺ cation) and fluorine addition to the aryl group. In aHF perfluoroalk-1-enyldifluoroboranes RFBF₂ as well as potassium perfluoroalk-1-enyltrifluoroborates K[RFBF₃] (RF = cis-C₂F₅CF:CF, trans-C₄F₉CF:CF) underwent only fluorine addition across the carbon-carbon double bond under the action of XeF₂. Potassium perfluorohexyltrifluoroborate K [C₆F₁₃BF₃] did not react with XeF₂ in aHF.

REFERENCE COUNT: 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> d his

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FILE 'REGISTRY' ENTERED AT 19:20:45 ON 12 MAR 2006

L1 E 2,2,3,3,3-PENTAFLUORO-1,1-DIPHENYLPROPAN-1-OL/CN
1 S E3
E POTASSIUM PENTAFLUOROETHYLTRIFLUOROBORATE/CN
E POTASSIUM PENTAFLUOROETHYL TRIFLUOROBORATE/CN

FILE 'CAPLUS' ENTERED AT 19:27:57 ON 12 MAR 2006

L2 4 S L1/PREP
L3 1 S POTASSIUM PENTAFLUOROETHYLTRIFLUOROBORATE

FILE 'REGISTRY' ENTERED AT 19:31:25 ON 12 MAR 2006

L4 0 S 805247-52

FILE 'REGISTRY' ENTERED AT 19:32:24 ON 12 MAR 2006

L5 1 S 805247-52-3/RN
SET NOTICE 1 DISPLAY
SET NOTICE LOGIN DISPLAY

FILE 'REGISTRY' ENTERED AT 19:33:52 ON 12 MAR 2006

L6 1 S 482635-70-1

FILE 'MARPAT' ENTERED AT 19:37:46 ON 12 MAR 2006

SET NOTICE DISPLAY 1
SET NOTICE LOGIN DISPLAY

FILE 'REGISTRY' ENTERED AT 19:39:27 ON 12 MAR 2006

L7 1 S 476639-90-4/RN
SET NOTICE 1 DISPLAY
SET NOTICE LOGIN DISPLAY
L8 1 S 476639-90-4

FILE 'CAPLUS' ENTERED AT 19:40:49 ON 12 MAR 2006

L9 10 S L8
L10 7 S L8/PREP

=> s 19 not 17

10 L7
L11 0 L9 NOT L7

=> s 19 not 10
2830 L0
L12 10 L9 NOT L0

=> d l12 ibib ab 1-10

L12 ANSWER 1 OF 10 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2005:166762 CAPLUS
DOCUMENT NUMBER: 142:414350
TITLE: Li[C2F5BF3] as an electrolyte salt for 4 V class
lithium-ion cells
AUTHOR(S): Zhou, Zhi-Bin; Takeda, Masayuki; Fujii, Takashi; Ue,
Makoto
CORPORATE SOURCE: Battery Materials Laboratory, Mitsubishi Chemical
Group Science and Technology Research Center,
Incorporated, Ibaraki, 300-0332, Japan
SOURCE: Journal of the Electrochemical Society (2005), 152(2),
A351-A356
CODEN: JESOAN; ISSN: 0013-4651
PUBLISHER: Electrochemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Lithium pentafluoroethyltrifluoroborate, Li[C2F5BF3] (LiFAB), was prepared by a facile metathesis reaction between high-purity K[C2F5BF3] and LiBF4 in di-Me carbonate with almost quant. yield. It was characterized by ¹H-, ¹⁹F-, ¹¹B-, ⁷Li-NMR, and elemental anal. In nonaq. solvents, LiFAB showed higher electrolytic conductivities than LiBF4 due to the weaker coordinating ability of FAB-. Compared with LiPF6, it showed a lower electrolytic conductivity in room-temperature region, and a higher conductivity in low-temperature region (T < -10 °C). The performances of LiFAB were evaluated in comparison with LiPF6 and LiBF4 by using Li/graphite and Li/nickel-based oxide half-cells and Li-ion cells. LiFAB could afford comparable performances to LiPF6 and much better performances than LiBF4.

REFERENCE COUNT: 47 THERE ARE 47 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 2 OF 10 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2004:1121653 CAPLUS
DOCUMENT NUMBER: 142:176638
TITLE: Low-melting, low-viscous, hydrophobic ionic liquids:
N-alkyl(alkyl ether)-N-methylpyrrolidinium
perfluoroethyltrifluoroborate
AUTHOR(S): Zhou, Zhi-Bin; Matsumoto, Hajime; Tatsumi, Kuniaki
CORPORATE SOURCE: Research Institute for Ubiquitous Energy Devices,
National Institute of Advanced Industrial Science and
Technology, Osaka, 563-8577, Japan
SOURCE: Chemistry Letters (2004), 33(12), 1636-1637
CODEN: CMLTAG; ISSN: 0366-7022
PUBLISHER: Chemical Society of Japan
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 142:176638

AB A series of hydrophobic ionic liqs., e.g., I, comprising N-alkyl-N-methylpyrrolidinium and perfluoroethyltrifluoroborate were prepared and characterized. The [C2F5BF3]--based salts showed lower m.ps. than the corresponding [BF4]--based ones. Of these salts, some were liqs. at room temperature and show very low viscosities (37-71 cP at 25 °C), high ionic conductivities (3.0-6.8 mScm⁻¹) and wide electrochem. windows.

REFERENCE COUNT: 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 3 OF 10 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2004:1120394 CAPLUS
DOCUMENT NUMBER: 142:198127
TITLE: Low-melting, low-viscous, hydrophobic ionic liquids:
1-alkyl(alkyl ether)-3-methylimidazolium
perfluoroalkyltrifluoroborate
AUTHOR(S): Zhou, Zhi-Bin; Matsumoto, Hajime; Tatsumi, Kuniaki
CORPORATE SOURCE: Research Institute for Ubiquitous Energy Devices,
National Institute of Advanced Industrial Science and
Technology (AIST), Osaka, 563-8577, Japan
SOURCE: Chemistry--A European Journal (2004), 10(24),
6581-6591
CODEN: CEUJED; ISSN: 0947-6539
PUBLISHER: Wiley-VCH Verlag GmbH & Co. KGaA
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 142:198127

AB Twenty two hydrophobic ionic liqs., 1-alkyl(alkyl ether)-3-methylimidazolium ([Cmmim]⁺ or [CmOnmim]⁺; where Cm is 1-alkyl, Cm = nCmH2m+1, m = 1-4 and 6; CmOn is 1-alkyl ether, C2O1 = CH3OCH2, C3O1 = CH3OCH2CH2, and C5O2 = CH3(OCH2CH2)2) perfluoroalkyltrifluoroborate ([RFBF3]⁻, RF = CF3, C2F5, nC3F7, nC4F9), were prepared and characterized. Some of the important physicochem. properties of these salts including m.p., glass transition, viscosity, d., ionic conductivity, thermal and electrochem. stability, were determined and were compared with those of the reported [BF4]⁻-based ones. The influence of the structure variation in the imidazolium cation and the perfluoroalkyltrifluoroborate ([RFBF3]⁻) anion on the above physicochem. properties is discussed. The key features of these new salts are their low m.ps. (-42 to 35°) or extremely low glass transition (between -87 and -117°) without melting, and considerably low viscosities (26-77 cP at 25°).

REFERENCE COUNT: 74 THERE ARE 74 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 4 OF 10 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2004:1059309 CAPLUS
DOCUMENT NUMBER: 142:37908
TITLE: Synthesis of guanidinium-cation containing salts for
use as ionic liquid reaction media
INVENTOR(S): Welz-Biermann, Urs; Ignatyev, Nikolai; Willner, Helge;
Bissky, German
PATENT ASSIGNEE(S): Merck Patent G.m.b.H., Germany
SOURCE: PCT Int. Appl., 42 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004106288	A2	20041209	WO 2004-EP3459	20040401
WO 2004106288	A3	20050317		
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW			
RW:	BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
DE 10325051	A1	20041223	DE 2003-10325051	20030602

PRIORITY APPLN. INFO.:

DE 2003-10325051

A 20030602

OTHER SOURCE(S): MARPAT 142:37908

AB The invention relates to salts containing guanidinium cations, to a method for their production and to their use as ionic liqs. Thus, 1,3-dimethyl-2-chloroimidazolidinium chloride was reacted with trimethylsilyldiethylamine to give 1,3-dimethyl-2-diethylaminioimidazolidinium chloride, which was then reacted with trifluorotris(pentafluoroethyl)phosphate to give the desired compound (I), m.p. 36-37° C. I had viscosities of 78, 34, and 18 cP at 40, 60, and 80 °C, resp., compared to 346, 269, and 124 cP for reference compound N,N-dimethyl-N',N',N'',N''-tetrahexylguanidinium bis(trifluoromethanesulfonyl)imide at 25, 40, or 60 °C, resp.

L12 ANSWER 5 OF 10 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2003:990110 CAPLUS

DOCUMENT NUMBER: 140:181496

TITLE: Rearrangement reactions of the transient Lewis acids (CF₃)₃B and (CF₃)₃BCF₂: an experimental and theoretical study

AUTHOR(S): Finze, Maik; Bernhardt, Eduard; Zaehres, Manfred; Willner, Helge

CORPORATE SOURCE: Fakultät 4, Anorganische Chemie, Universitaet Duisburg-Essen, Duisburg, D-47048, Germany

SOURCE: Inorganic Chemistry (2004), 43(2), 490-505
CODEN: INOCAJ; ISSN: 0020-1669

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 140:181496

AB Short-lived (CF₃)₃B and (CF₃)₃BCF₂ are generated as intermediates by thermal dissociation of (CF₃)₃BCO and F- abstraction from the weak coordinating anion [B(CF₃)₄]-, resp. Both Lewis acids cannot be detected because of their instability with respect to rearrangement reactions at the B-C-F moiety. A cascade of 1,2-F shifts to B followed by perfluoroalkyl group migrations and also difluorocarbene transfer reactions occur. In the gas phase, (CF₃)₃B rearranges to a mixture of linear perfluoroalkyldifluoroboranes CnF2n+1BF₂ (n = 2-7), while the resp. reactions of (CF₃)₃BCF₂ result in a mixture of linear (n = 2-4) and branched monoperfluoroalkyldifluoroboranes, e.g., (C₂F₅)(CF₃)FCBF₂. For comparison, the reactions of [CF₃BF₃]- and [C₂F₅BF₃]- with AsF₅ were studied, and the products in the case of [CF₃BF₃]- are BF₃ and C₂F₅BF₂ whereas in the case of [C₂F₅BF₃]-, C₂F₅BF₂ is the sole product. In contrast to reports in the literature, CF₃BF₂ is too unstable at room temperature to be detected. The decomposition of (CF₃)₃BCO in anhydrous HF leads to a mixture of the new conjugate Bronsted-Lewis acids [H₂F][(CF₃)₃BF] and [H₂F][C₂F₅BF₃]. All reactions are modeled by d. functional calcns. The energy barriers of the transition states are low in agreement with the exptl. results that (CF₃)₃B and (CF₃)₃BCF₂ are short-lived intermediates. Since CF₂ complexes are key intermediates in the rearrangement reactions of (CF₃)₃B and (CF₃)₃BCF₂, CF₂ affinities of some perfluoroalkylfluoroboranes are presented. CF₂ affinities are compared to CO and F- affinities of selected boranes showing a trend in Lewis acidity, and its influence on the stability of the complexes is discussed. F- ion affinities are calculated for a variety of different fluoroboranes, including perfluorocarboranes, and compared to those of the title compds.

REFERENCE COUNT: 74 THERE ARE 74 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 6 OF 10 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2003:837099 CAPLUS

DOCUMENT NUMBER: 139:323661

TITLE: Process for the production of (perfluoroalkyl)phosphines by reaction of fluoro(perfluoroalkyl)phosphoranes with hydride donors

INVENTOR(S): and their use as perfluoroalkylating reagents
 Welz-Biermann, Urs; Ignatyev, Nikolai; Weiden,
 Michael; Schmidt, Michael; Heider, Udo; Miller,
 Alexej; Willner, Helge; Sartori, Peter
 PATENT ASSIGNEE(S): Merck Patent G.m.b.H., Germany
 SOURCE: PCT Int. Appl., 32 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003087113	A1	20031023	WO 2003-EP2739	20030317
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
DE 10216998	A1	20031113	DE 2002-10216998	20020418
AU 2003218773	A1	20031027	AU 2003-218773	20030317
EP 1495037	A1	20050112	EP 2003-712029	20030317
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
US 2005131256	A1	20050616	US 2003-511554	20030317
JP 2005522512	T2	20050728	JP 2003-584069	20030317
PRIORITY APPLN. INFO.:			DE 2002-10216998	A 20020418
			WO 2003-EP2739	W 20030317

OTHER SOURCE(S): CASREACT 139:323661; MARPAT 139:323661

AB (perfluoroalkyl)phosphines were prepared by solventless reaction at reflux of at least 1 fluoro(perfluoroalkyl)phosphorane (C_nF_{2n+1})mPF₅-m (1 ≤ n ≤ 8, preferably 1 ≤ n ≤ 4; m = 1, 2, 3) with equimolar or excess amts. of at least 1 hydride ion donor (hydride donors = hydrosilanes, alkyl(hydro)silanes, metal hydrides, borohydrides, hydroborates); tris(perfluoroalkyl)phosphines thus prepared are useful for perfluoroalkylation of chemical substrates, preferably tricoordinated organoboron compds. and/or carbonyl group-containing organic compds., in presence of a base. In an example, treating 0.54 mol (C₂F₅)₃PF₂ with 1.089 mol NaBH₄ at reflux for 3 h with vigorous stirring gave 93% (C₂F₅)₃P, which subsequently was treated with KO^tBu and benzophenone in THF to give 62% CF₃CF₂C(OH)Ph₂.

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 7 OF 10 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2003:837015 CAPLUS

DOCUMENT NUMBER: 139:323332

TITLE: Method for perfluoroalkylation of carbonyl-containing organic compounds and/or tricoordinated organoboron compounds with tris(perfluoroalkyl)phosphine oxides in the presence of a base

INVENTOR(S): Ignatyev, Nikolai; Welz-Biermann, Urs; Schmidt, Michael; Weiden, Michael; Heider, Udo; Willner, Helge; Sartori, Peter; Miller, Alexej

PATENT ASSIGNEE(S): Merck Patent G.m.b.H., Germany

SOURCE: PCT Int. Appl., 19 pp.
 CODEN: PIXXD2

DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003087020	A1	20031023	WO 2003-EP2741	20030317
W:				
			AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW	
RW:			GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG	
DE 10216996	A1	20031030	DE 2002-10216996	20020416
AU 2003219062	A1	20031027	AU 2003-219062	20030317
EP 1494982	A1	20050112	EP 2003-714833	20030317
R:			AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK	
US 2005119513	A1	20050602	US 2003-511156	20030317
JP 2005522496	T2	20050728	JP 2003-583979	20030317
PRIORITY APPLN. INFO.:			DE 2002-10216996	A 20020416
			WO 2003-EP2741	W 20030317

AB The invention relates to a method for perfluoroalkylation of carbonyl-containing organic compds. and/or tricoordinated organoboron compds. with tris(perfluoroalkyl)phosphine oxides in the presence of a base. Thus, a mixture of KF and (MeO)₃B in 1,2-dimethoxyethane was treated with tris(pentafluoroethyl)phosphine oxide (preparation given) at -40° followed by stirring for 1 h at -30° to give 53.6% potassium pentafluoroethyltrisfluoroborate [(C₂F₅)BF₃K].

REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 8 OF 10 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2003:807858 CAPLUS

DOCUMENT NUMBER: 139:395987

TITLE: Perfluoroalkyl borates and boronic esters: new promising partners for Suzuki and Petasis reactions
 AUTHOR(S): Kolomeitsev, Alexander A.; Kadyrov, Alexander A.; Szczepkowska-Sztolcman, Joanna; Milewska, Magdalena; Koroniak, Henryk; Bissky, German; Barten, Jan A.; Roeschenthaler, Gerd-Volker

CORPORATE SOURCE: Institute of Organic Chemistry, Ukrainian National Academy of Sciences, Kiev, 02094, Ukraine

SOURCE: Tetrahedron Letters (2003), 44(45), 8273-8277

CODEN: TELEAY; ISSN: 0040-4039

PUBLISHER: Elsevier Science B.V.

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 139:395987

AB Lithium and potassium trifluoromethyl-, pentafluoroethyl- and [(diethylphosphinyl)difluoromethyl]trialkoxymborates were prepared by reaction of either perfluoroalkyllithium or (perfluoroalkyl)trimethylsilane/F- with tri-Me or tri-Et borates. Treatment of perfluoroalkyltrialkoxymborates with methanesulfonyl chloride, Me triflate or Me tosylate furnished the hitherto unknown trifluoromethyl-, pentafluoroethyl- and [(diethylphosphinyl)difluoromethyl]boronic esters.

REFERENCE COUNT: 28 THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 9 OF 10 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2003:728921 CAPLUS

DOCUMENT NUMBER: 140:199362

TITLE: Novel electrolyte salts based on perfluoroalkyltrifluoroborate anions. 1. Synthesis and characterization

AUTHOR(S): Zhou, Zhi-Bin; Takeda, Masayuki; Ue, Makoto

CORPORATE SOURCE: Electrochemistry Laboratory, Science and Technology Research Center, Mitsubishi Chemical Corporation, Inashiki, Ibaraki, 300-0332, Japan

SOURCE: Journal of Fluorine Chemistry (2003), 123(1), 127-131
CODEN: JFLCAR; ISSN: 0022-1139

PUBLISHER: Elsevier Science B.V.

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 140:199362

AB Lithium and tetraethylammonium perfluoroalkyltrifluoroborate salts, $\text{Li}[\text{RfBF}_3] \cdot \text{H}_2\text{O}$ and $\text{Et}_4\text{N}[\text{RfBF}_3]$ ($\text{Rf} = \text{C}_2\text{F}_5$, $n\text{-C}_3\text{F}_7$ and $n\text{-C}_4\text{F}_9$), were prepared from the reactions of perfluoroalkylmagnesium reagents (RfMgBr) and $\text{B}(\text{OCH}_3)_3$, followed by fluorination by aqueous KHF_2 and aqueous HF solns. and the cation exchange reaction of the resultant $\text{K}[\text{RfBF}_3]$. All the salts prepared were characterized by ^{19}F NMR, ^1H NMR, ^{11}B NMR, ^7Li NMR, IR, MS and elemental anal.

REFERENCE COUNT: 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 10 OF 10 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2002:608824 CAPLUS

DOCUMENT NUMBER: 138:4627

TITLE: (Fluoroorgano)fluoroboranes and -borates. 7. The reaction of RfBF_2 and $\text{K}[\text{RfBF}_3]$ ($\text{Rf} = \text{perfluorophenyl-}$, $\text{perfluoroalk-1-enyl-}$ and perfluoroalkyl) with xenon difluoride in anhydrous HF

AUTHOR(S): Frohn, H.-J.; Bardin, V. V.

CORPORATE SOURCE: Fachgebiet Anorganische Chemie, Universitaet Duisburg, Duisburg, D-47048, Germany

SOURCE: Zeitschrift fuer Anorganische und Allgemeine Chemie (2002), 628(8), 1853-1856
CODEN: ZAACAB; ISSN: 0044-2313

PUBLISHER: Wiley-VCH Verlag GmbH

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 138:4627

AB The dissoln. of (perfluoroorgano)difluoroboranes RfBF_2 in anhydrous HF (aHF) resulted in equilibrium mixts. of the starting borane and different kinds of acid-base products: $[\text{H}_2\text{F}][\text{RfBF}_2(\text{F} \cdot \text{HF})]$ ($\text{Rf} = \text{C}_6\text{F}_5$, $\text{cis-C}_2\text{F}_5\text{CF:CF}$, $\text{trans-C}_4\text{F}_9\text{CF:CF}$) or $[\text{H}_2\text{F}][\text{RfBF}_3]$ ($\text{Rf} = \text{C}_6\text{F}_{13}$). In aHF the aryl compds. $\text{C}_6\text{F}_5\text{BF}_2$ and $\text{K}[\text{C}_6\text{F}_5\text{BF}_3]$ showed two parallel reactivities with XeF_2 : xenodeborylation (formation of the $[\text{C}_6\text{F}_5\text{Xe}]^+$ cation) and fluorine addition to the aryl group. In aHF perfluoroalk-1-enyldifluoroboranes RfBF_2 as well as potassium perfluoroalk-1-enyltrifluoroborates $\text{K}[\text{RfBF}_3]$ ($\text{Rf} = \text{cis-C}_2\text{F}_5\text{CF:CF}$, $\text{trans-C}_4\text{F}_9\text{CF:CF}$) underwent only fluorine addition across the carbon-carbon double bond under the action of XeF_2 . Potassium perfluorohexyltrifluoroborate $\text{K}[\text{C}_6\text{F}_{13}\text{BF}_3]$ did not react with XeF_2 in aHF .

REFERENCE COUNT: 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT